ABSTRACT

The present invention provides methods for separating one or more components of interest from a sample containing particulates and soluble materials. The method comprises the steps of: (a) filtering a sample through silica filter media whose surface silanol groups have reacted with one or more silanes, and (b) simultaneously capturing particulates and binding a soluble component to the silica filter media. The bound soluble component of interest is subsequently eluted from the silica filter media. In one embodiment of the invention, unwanted soluble materials are captured by the treated silica filter media and desired component of interest is recovered from the flow-through. In another embodiment of the invention, different components of interest are recovered from both the eluate and the flow-through. Preferred treated silica filter media are silane-treated rice hull ash or diatomaceous earth with functional quarternary ammonium group or functional sulphonate group. Particulates suitable for the present invention, for example, are microorganisms.